DOCUMENT RESUME

ED 175 318 HE 011 588

AUTHOR Clouse, B. Wilburn
TITLE The Perceived Role of an Administrator in a Multidisciplinary Research, Training, and Service Center Within a University Structure.
PUB DATE May 77
NOTE 93p.; PhD in Educational Administration, George Peabody College for Teachers

EDRS PRICE MF01/PC04 Plus Postage.
DESCRIPTORS Administrative Personnel; *Administrator Role; Comparative Analysis; Educational Administration; *Interdisciplinary Approach; Interpersonal Relationship; Management; *Organizational Theories; Organizations (Groups); Power Structure; Research; *Research and Development Centers; *Research Directors; Role Conflict; *Role Perception; Social Relations; Social Science Research; Universities

ABSTRACT

The role of administrators serving in national centers established by the federal government to encourage and foster research, training, and service is investigated. Two national programs specifically examined in this report are centers for mental retardation research and human development, and university-affiliated training centers. The research was designed to determine the major functional role of the national center administrator, and to identify techniques to improve organizational structures and establish guidelines for the training of multidisciplinary administrators. A general overview of role theory is provided as well as a list of related terms and definitions. Role theory and role-set concepts related to administrators are applied to both the university and national center settings. Ten hypotheses were devised and a sample of 316 research administrators and directors were surveyed. Directors and administrators indicated similar role expectations as did governmental staff and administrators. Directors of graduate school programs and administrators indicated dissimilar role expectations in management areas. Coordinators of state programs and community development directors expressed similar administrative role expectations. Three major areas are suggested in which further research can aid in the development of role theory as it relates to the administration of multidisciplinary and interdisciplinary research training and service. The survey instrument, and a list of questionnaire review board members and test sites are appended. (SF)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED175318

C-18
(175)
C 77
L765

THE PERCEIVED ROLE OF AN ADMINISTRATOR IN A MULTIDISCIPLINARY RESEARCH, TRAINING, AND SERVICE CENTER WITHIN A UNIVERSITY STRUCTURE

by

R. Wilburn Clouse

Master of Arts

Middle Tennessee State University

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

A Dissertation Submitted in Partial Fulfillment of Requirements for the Degree of Doctor of Philosophy in Educational Administration of Programs for Administrators of Educational Programs George Peabody College for Teachers May 1977

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY R. Wilburn Clouse TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

HE 011 588

Major Professor Arthur Shapiro Date 4/8/77

Second Reader James N. Whitted Date 4/8/77

Program Director Robert D. Troutman Date 4/14/77

Executive Dean for Academic Affairs Clement Ford Date 5/6/77

ACKNOWLEDGEMENTS

There are a number of persons to whom I am obligated for valuable assistance and support in this research effort. It would not have been possible without the cooperation of the 12 National Centers for Mental Retardation and Related Human Development and the 36 University Affiliated Training Centers. A number of directors and administrators at these national centers were extremely helpful in the formulation and testing of the questionnaire.

Particular gratitude is expressed to my dissertation committee--Arthur Shapiro, James Whitlock, and Earl Davis whose advice, patience and encouragement gave me the necessary strength to complete the final product. Especially, am I grateful to my chairman, Arthur Shapiro, who has been my mentor and friend, generous of time and thought.

I wish also to express my gratitude to Norma Morris and Nell Ayers for their efforts in the typing and retyping of the manuscript and for a number of valuable substantial and technical suggestions.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS ii

LIST OF TABLES v

LIST OF FIGURES vi

Chapter

I. THE PROBLEM IN PERSPECTIVE 1

Introduction
Purpose of Study
Background and Rationale
Conceptual and Definitional Framework

II. THEORETICAL FRAMEWORK AND REVIEW OF THE LITERATURE . . 12

Introduction
Theoretical Background
Review of the Literature

III. METHODOLOGY AND HYPOTHESES. 32

Introduction
Instrument Development and Population
Statistical Design

IV. RESULTS 36

Introduction
Questionnaire Response
Demographic Data
Hypotheses Tested

V. SUMMARY AND CONCLUSIONS 61

Introduction
Summary
Conclusions
Recommendations

REFERENCES 67

APPENDIXES . . . . . .

A Health Services Administrator Education Questionnaire 71

B Questionnaire Review Board 82

C Questionnaire Test Sites 84

LIST OF TABLES

Table		Page
1.	Questionnaire Response Summary	37
2.	Academic Background	38
3.	Administrative Experience - Years	40
4.	Age	41
5.	Chi Square Analysis	43
6.	Analysis of Variance	54
7.	Group Means and Rank Order	60

LIST OF FIGURES

Figure		Page
1.	General Nomothetic-Idiographic Model	20
2.	Relationship of Administrator to Members of the Role-Set	24

CHAPTER I

THE PROBLEM IN PERSPECTIVE

Introduction

Public Law 88-164 established the framework for the development of two National Centers for health related research, training, and service: (a) Center for Mental Retardation Research and Human Development, and (b) University affiliated training centers. Construction for these facilities was completed between the years of 1966 and 1970. Over the years these centers have developed into complex organizational structures dealing with multiple problems in health related research, training, and delivery of services. These centers are target oriented and located in nationally known colleges and universities throughout the United States. Original construction and operating funds were made available on a competitive basis from a variety of federal, private, and state agencies. The design of the National Center Programs was to utilize the knowledge of the academic community and to develop a multidisciplinary approach to health related research, training and delivery of services. The funding sources for the centers provided funds for buildings, equipment, and personnel in order to carry out the direct mission of the centers and to enhance the university's ability to carry out its mission in research, training, and service.

Over the years, the center programs have developed into a multimillion dollar enterprise with unique and difficult management problems.

With the enactment of PL 94-103 additional emphasis was placed on the importance of these centers, and management became even more complex.

At the very outset of the centers programs, several federal agencies recognized the need to establish comprehensive administrative and management systems for these highly complex multidisciplinary organizations. These agencies made funds available for the establishment of management systems which included personnel funds for an administrator for each large center. The role of the center administrator in this new and complex organization was not well defined. The role of this new position was similar to but different from all other administrative roles in the university setting. The role was described in many different generalities. Some described it like hospital administration, health planning administration, public health administration, and grants management administration. None of these old roles truly fit the new center administrator and no academic training programs existed at the beginning to offer an operating model. The role of the center administrator, therefore, followed an evolutionary development. While each administrator had a different role at his center, most centers normally expected the administrator to be responsible for all of the nonscientific and academic programs of the center. While this was true for most centers, some administrators also held faculty appointments within the university and were expected to teach in their respective discipline and to develop management training programs for trainees associated with the center and university.

As this role has developed, the center administrator has been seen as a "man in the middle," caught between the frequently conflicting goals of the center, the parent organization, outside organizations, and Federal Regulations. In his attempt to maintain systems for the allocation and use of the scarce resources of the center, the administrator has experienced multiple role conflicts. The center administrator is strongly affected by the ambiguities and inherent strains placed on his multiple role situation. The center administrator is not alone in this organizational situation. The literature is replete with descriptions of problems of persons who occupy multiple roles at one time. Robert Merton (1957, pp. 106-120) has called these "role-set" problems because every individual stands at the intersection of a whole set of roles that may have contradictory expectations.

In recent years there has been much interest in the theory of roles and role-sets. Since the 1930s the literature on the subject and related areas has grown rapidly in both the empirical and theoretical areas. A strong research interest has been expressed within the complex educational organization. Studies have appeared in educational literature investigating and reporting problems associated with the organizational structure and with its management and administration. Examples of such studies include the School Executive Studies Program in the 1950s, the National Principalship Study in the 1960s and other similar studies in university administration in the 1970s.

In reality there are literally dozens of "men in the middle" scattered throughout the formal organizational structure. The need to better understand the role of the administrator in all organizations is well documented in the literature. Therefore, this study is concerned with the nature of the perceived role of the center administrator as he orchestrates the administration and management of a National Center operating within the environment of a university structure.

Purpose of the Study

The primary purpose of this study is to provide further insight into the perceived functional role of administrators serving in national centers established by the federal government to encourage and foster research, training, and service. The two national programs selected for the study (Centers for Mental Retardation Research and Human Development and University Affiliated Training Centers) were made possible by PL 88-164 in 1964. In extreme form, role conflict and ambiguity have posed almost unsurmountable management problems in many complex organizations.

This research was based on the assumption that the quest for functional role identity among administrators in national centers is a meaningful problem to study in the pursuit of techniques to improve organizational management and to establish guidelines for the training of multidisciplinary administrators. This research was designed to determine the major functional role of the national center administrator. While conclusions drawn can be generalized to Centers for

Mental Retardation Research and Human Development and University Affiliated Training Centers only, implications concerning role-sets and role ambiguity can be made and provide deeper understanding of the pressures placed on the administrator who is characterized as "the man in the middle." This knowledge not only provides information which administrators of national centers can use to improve their own understanding of their functional roles within the organization; it also provides implications for those seeking a more complete understanding of role theory and its application to the academic environment.

This study is centered around the idea that administrators are involved in an array of roles which cluster about their personal and organizational life. Individuals are attached to a series of sub-units acting within the compass of a larger group. Inside the larger dimensions which might be an organization or any of its functional components, sub-units might be studied as units acting in concert, or in opposition, within the larger framework (Guetzkow, 1968). To each individual an assortment of roles might be ascribed according to their various structures and/or their functions within a more general context (Homans, 1950).

Organizations are not designed to have damaging or deleterious effects upon their members. They are designed to be purposeful structures to carry out assigned functions and missions. The harmful side effects have been one of the unfortunate consequences with which certain organizational members have had to deal. When persons, such as the superintendent, principal, and university dean, department chairman, or center administrator, are placed in crucial administrative

roles, they do indeed become the "men in the middle," caught between conflicting groups, person, or factions. Additional studies are needed to better understand the individual and his role in complex organizations. This study will review some of the theories and concepts related to this problem and analyze the perceived role of the center administrator.

Background and Rationale

As the programs of the national centers have grown in size and complexity during the past decade, a new organizational role has tended to emerge--the role of the center administrator. This role is still so new that there has been little published research concerning it. Yet, it is clear this role is of crucial importance for implementing, maintaining, and understanding the many aspects of large-scale National Center operations within a university structure. The pace and sweep of social, political, technological, and demographic changes are transforming research, training, and service in fundamental and unpredictable ways. They are placing great strains on all social institutions, including universities, centers, institutes, and other organizations who must work together in an organizational structure to help solve the pressing problems of society. The impact of those strains on the needs, values, and goals of educational administrators, professionals, and national center administrators are great. The tasks and tensions inherent in the roles are sure to produce role-conflicts and thus hinder the process of science and education. In theory the role of the center administrator is to develop management techniques

that will minimize role conflicts, encourage and support research, training, and service. This is a difficult task for the administrator.

The administrator is usually placed in an organizational environment where he must respond to both internal and external pressures. In the organizational hierarchy, the administrator is hardly ever at the top but almost always very near the top. Rarely does he have responsibilities for line activities related to research, but he is usually included in policy formulation and is considered part of the director's key staff. Historically, the job arose because the routine and nonscientific aspects of the job of the director became too administratively oriented. Because of this unique position, the administrator finds himself in a professional organization where the professional tends to create his own role instead of filling one that the organization has defined for him. He may also negotiate for scarce resources such as facilities and money. The professional may also engage in open negotiation about organizational policies that threaten his professional values and progress. The professional in a center usually will look outside the organization for his rewards, while the administrator seeks self-fulfillment within the organization.

Several writers have indicated the incompatability of professional and administrative orientations in research and educational institutions. Warren Bennis (1968) writes that professionals derive their rewards from standards of excellent, internalized and reinforced through professional identification. They are committed to task, not the job. They are not usually good company men. They look to their colleagues and professional associations rather than to their

place of work for their values, their rewards, and their status. Administrators, by contrast, can generally find some rewards within the organization and are concerned with the efficient coordination of diverse activities and organizational goals. The role conflict between the administrator and the professional is only one of the internal problems with which the administrator must learn to cope.

The administrator must be responsible to a number of external agencies such as funding agencies, university departments, deans, and vice-presidents. Role conflicts occur frequently in situations where the allocation of scarce resources are in question. The administrator must uphold the guidelines of the grants manual while operating within the goals and objectives of the parent organization--the university.

The range and complexity of center administrative problems are often a result of its diversity of problems and rate of change, rather than size or budget. When new disciplines are admitted to the center programs, the management conflicts grow more severe. Each new discipline will struggle for recognition and status. Since resources are always limited, recognition and status must be secured from the more firmly established groups. These conflicting internal goals further complicate the role of the administrator. Organizational disputes involving status, freedom, and power represent another set of role conflict problems for the administrator.

Conceptual and Definitional Framework

As in all empirical studies, a theoretical structure and operational definitions are required as a basic framework for analyzing and interpreting observations.

As organizational theory contains role theory as a sub-set, so organizations are composed of persons and aggregates playing or performing observable roles. Thus, both organizational theory and role theory are relevant to this study and are frequently referred to, not necessarily as proven theorems, but as emerging theories of human action and behavior in a standardized and uniform structure. The study is concerned with the functional role of the administrator in a national center conducting research, training, and providing services. The informal role and role expectation from persons not closely associated with the center concept are not considered.

Biddle and Thomas (1966), whose work defines and synthesized concepts in the field of role theory, caution that there is no one standard construct that can be properly called "role theory." Rather, there exists in the literature an array of concepts and definitions--all of them dealing with persons and aggregates involved with behavior in society and organizations.

Certain words and phrases are used frequently in the professional literature and in the study. Operational definitions of terms, congruent with their use in the context of this study, have been abstracted from the writings of recognized authorities in the fields of education and social psychology:

> role theory: a new field of study . . . its domain [is] nothing more nor less than complex, real-life behavior as it is displayed in a genuine on-going social situation. [It explores such influences as] the prescriptive framework of demands and rules, the behavior of others . . . the positions of which the person is a member, and the individual's own understanding of, and reactions to, these factors . . .
>
> Role analysts examine such problems as the processes and phases of socialization, interdependencies among individuals, the

characteristics and organization of social positions, processes of conformity and sanctioning, specialization of performance and the division of labor. . . . (Biddle & Thomas, 1966, p. 17)

role: the word [should] denote the generic idea of the particular behavior of given persons. Individual role--all behavior of an individual. Aggregate role--all behavior of an aggregate, or group. (Biddle & Thomas, 1966, p. 30)

enactment: role enactment embraces what may be called the machanics of the role-taking process. These mechanics can be summarized [under] the following concepts: number of roles, organismic involvement [intensity of the enactment], and accessibility [consciousness or self-involvement]. . . . (Sarbin, 1954, p. 502)

The focus of attention [in role enactment] is an overt social conduct. (Sarbin, 1968, p. 490)

organization theory: attempts to explain the behavior of individuals and groups within organizations, and also the aggregate behavior of organizations with respect to their environments . . . the focus [is] on these principal elements: organizational participants, organizational goals, and organizational roles. (Cyert & MacCrimmon, 1968, p. 568)

To a considerable extent, the role expectations held by the members of a role set--the prescriptions and proscriptions associated with a particular position--are determined by the broader organizational context. (Kahn, Wolfe, Quinn, Snock, & Rosenthal, 1964, p. 28)

organization: falls somewhere between the primary group and the whole society (Cyert & MacCrimmon, 1968, p. 568). A number of men [who] have become organized into a social unit--an organization--that has been established for the explicit purpose of achieving certain goals. (Blau & Scott, 1962, p. 1)

perceptual role: any given position is the location of one individual or class of individuals within the social system. The way people behave in these positions depends partly on how they think they are expected to behave and how others actually expect them to behave. The expectations are called roles. (Lonsdale, 1964, p. 149-150)

role expectation: . . . is an anticipation of a behavior or set of behaviors of another person in a role, a set of evaluative standards. An expectation may have direction, in that it may be either a prescription or proscription, and it may have intensity, or a continuum ranging from the permissive through the preferential to the mandatory. (Lonsdale, 1964, p. 150)

role: a role has certain normative rights and duties, which we may call role expectations. When the role incumbent puts these

> rights and duties into effect, he is said to be performing his role. The expectations define what the actor, whoever he may be, should or should not do under various circumstances while occupying the particular role in the social system (Getzels, Lipham, & Campbell, 1968, p. 61)

The term national center for research, training, and service is defined for the purpose of this study as being the 12 National Centers for Mental Retardation Research and Human Development and the 36 National University Affiliated Training Centers which were established under PL 88-164. These centers are geographically dispersed throughout the United States.

The term administrator is defined as that person who is administratively responsible for the nonscientific activities of the national centers.

The concept of a national center, as a means by which certain types of research can be managed effectively, is not generally understood or fully appreciated for its value to the scientific community. These national centers are facilities funded through multiple agencies and whose resources are available on a competitive basis for targeted research, training, and service. A common bond among such organizations is that the science in which these centers are engaged requires large and costly research facilities and annual budgets running into the millions of dollars.

CHAPTER II

THEORETICAL FRAMEWORK AND REVIEW OF THE LITERATURE

Introduction

Role theory is a relatively new field of inquiry that attempts to describe and understand a specialized field of human behavior. Since the 1930s, role analysts have attempted to develop a role theory that will be universally recognized as a specialization in the behavioral and management sciences. Scholars have made strong attempts to gain universal acceptance of the role theory by establishing a domain of study, developing a prospective in language, articulating a body of knowledge, and by presenting a theory in methods of inquiry. While some of the major concepts of role theory were articulated in the early 1900s the basic definitive work occurred during the 1950s and 1960s.

Administrators have been concerned with describing and understanding real life behavior as it is displayed in social situations for a number of years. There is strong interest in areas such as a man's behavior as an employee and husband or a given individual, sometimes on a specific aggregate of individuals, and sometimes particular groupings of individuals who display given behaviors. Many facets of real life behavior are studied such as the individual's appraisal of himself or others, the adequacy of the person's performance, how people learn to perform, and how the activities of some

groups are related to those of other groups. Role theory is concerned with complex real life behavior which is associated with social positions, specializations, divisions of labor, sanctioning and conformity, and interdependence between individuals and aggregates (Biddle & Thomas, 1966, pp. 3-4).

The role theory concept to some extent can be compared to the actor who portrays a character in a play. The actor's performance is determined by the script, the director's instructions, performances of fellow actors and to some extent reactions of the audience. With the exception of the actor's personal interpretation of his part, his performance is essentially programmed by these external factors. Individuals in real life are to a great extent programmed by external factors. Individuals in society occupy positions, and their role in these positions is determined by social norms and rules; by the role of others in respective positions; by those who observe and react to the individual's performance; and by the individual's personality and capabilities. In this analogy the social "script" may be compared to that of a play. The "director" is often present in real life as a supervisor, parent or teacher; the "audience" in life consists of those who observe the positions member's behavior; the positions member's performance in life is attributable to his personality and capabilities. In essence the role perspective assumes that individual performance is directly related to social prescriptions and behavior of others (Biddle & Thomas, 1966, p. 4).

The behavior of an individual is obviously shaped by the demands and roles of others, by perceived sanctions, and by the individual's

own understanding and assumptions of what his behavior should be. The role analyst is concerned with studying these factors in the context of families, informal and work groups, school groups, organizations, communities, and societies. Studies in role theory frequently highlight the social determinents that influence human behavior.

Theoretical Background

The concept of role has been greatly expanded in recent years, but the original development of the concept owes much to Mead (1934), Linton (1936), Sargent (1951), and Parsons (1956) who along with others pioneered the basic ideas and helped develop a stable role language. From their early conceptual framework, it was generally recognized that each person in society occupies multiple statuses. Linton (1936) has suggested that every status has an associated role. Merton (1957) stated that "each social status involves not a single associated role, but an array of roles." He designates such a complement of role relationships related to each status as role sets. This array of associated roles relates the status occupant to others.

This study deals with administrators, who are actors, interacting with multiple groups within the context of an organizational unit or system designed to meet the research, training and service needs of 48 national centers. The national centers consists of professional people formally joined together and usually assigned specific functions, for the purpose of achieving a stated goal (Parsons, 1960, p. 7). Parsons notes that interaction is centered around the integration of acting units, i.e., personalities engaged in roles. "Each member is

both actor and object of orientation for both actors and himself" (Parsons, 1960, p. 8).

The struggle of the administrator versus the scientist, academician, and others is at times acute. The importance of expert and specialized knowledge can acquire strong authority relationships. The larger the organization becomes, the more ranks of specialized personnel there will tend to be. The more physically decentralized the organization, the more different points of view there will be and the more they will be tolerated. According to Shibutani (1962, pp. 128-147) the individual tends to orient himself to primary groups within the organization which coincide with the frame of reference around which his perceptual self is organized. These become his reference groups. Most reference units tend to be mutually sustaining (Shibutani, 1962, pp. 128-147), but multiple units may operate at cross purposes, since conformity to norms of an out-group may be equivalent to non-conformity to the norms of the in-groups (Stouffer, 1942).

According to Levinson (1959, pp. 170-180) there are three different senses in which the term role may be used: (a) a role may be defined by the structural demands of a position, (b) a role may be defined by the individual's inner definition of the part he is to play, and (c) a role may be defined by ways in which members of an organization act in accord with the sanction system. Structural requirements stem from statements of goals, charters, policies, rules and regulations, and from definition of the role-set. Often these requirements are not defined precisely and may even be in conflict.

Levinson (1959, p. 175) states "the degree of coherence among the structurally defined role-requirements, degree of consensus held, and degree of individual choice allowed are significant properties of an organization." Stability of the organization requires moderate consensus on role norms and conceptualization.

Social systems theory is a popular approach in analyzing factors which influence role behavior in organizations. Daniel Griffith (1964, p. 428) has defined a social system as, "a complex of elements in mutual interaction." Griffith's social system theory provides for two types: open or closed. A closed system is independent of the environment, and conceptually does not apply to the national centers which must interact with multiple organizations. A national center responds to in-puts from an external environment and adjusts its internal environment to produce appropriate out-puts. Environment is defined to include the sub-systems within the organization and the suprasystem.

J. W. Getzels and E. G. Guba, in the 1950s, pioneered several studies in pursuit of a theory of administration as a social process. In the development of their theoretical concept of administration they have clearly delineated the role of the individual within the organizational setting. Getzels and Guba describe a hierarchical role-structure in the social system. Structurally, administration may be seen as a series of superordinate-subordinate relationships within a social system. Functionally, the hierarchical relationship is frequently the locust for allocating the integrating roles, personnel, and facilities to achieve the goals of the system (Getzels,

1952, pp. 235-246). This type of relationship led Getzels and Guba to become concerned with the complex web of human involvement and its attendent behavior in organizational life. As the individual, with all his needs, drives, and talents, assumes his official role in the organizational structure, he shapes that role to some extent, and is also shaped by the organization to a certain extent. The dynamic interaction of people with varying psychological makeups in the organizational setting is thus the domain of role theory.

How people perform their roles in organizational settings is an important issue. The interpersonal behavior exhibited by participants in complex organizations as they deal with one another seems to be crucially important in determining the effectiveness of the organization. People in organizations have definite roles to perform, and many interactive factors help to determine precisely the performance of the individual and ultimately the performance of the organization.

The social system involves two major classes of phenomena. First the institution and second the individual. Within the institution or organizational setting certain roles and expectations are established that will fulfill goals of the system. Inhabiting the system or organization are individuals with certain personalities and need-dispositions. The interaction between the individual and institution is generally called "social behavior." Social behavior may be described as a function of the institution, role, and expectations, which together constitute the nomothetic dimension of activity in a social system; and individual, personality, and need-disposition, which together constitute the idiographic dimension of activity in a social system (Getzels, Lipham, & Campbell, 1968, p. 56).

To successfully obtain organizational and personal goals one must be able to understand the nature and relationship between the institution and the individual. In order to understand the Getzels/Guba model, it is important to understand their concept of institution. The term "institution" has received a variety of definitions, but for understanding the Getzels/Guba model it is sufficient to point out that all social systems have certain imperative functions that come in time to be carried out in certain routinized patterns. These functions often include: governing, educating, and policing. These functions may be said to have become "institutionalized" and the agencies established to carry out these institutionalized functions for the social system may be termed "institutions." Getzels and Guba point out that these institutions have certain noteworthy characteristics. Institutions are purposive, peopled, structural, normative, and sanction-bearing (Getzels, Lipham, & Campbell, 1968, pp. 51-59). For the Getzels/Guba model these institutional functional areas are vitally important.

On the other hand, Getzels and Guba have formulated several generalizations about the nature of role. The generalizations are: roles represent positions, offices, or status within the institution; roles are defined in terms of role expectations; roles are institutional given; roles may be thought of as behaviors along a continuum from "required" to "prohibited"; and roles are complementary (Getzels, Lipham, & Campbell, 1968, pp. 59-63).

To this point in the social systems theory, it has been sufficient to conceive of the role incumbent as only "actors," devoid of personal or other individualizing characteristics. Incumbents of the same role

never act exactly alike nor implement the given role in exactly the same way. Roles are filled by real live people and no two persons are exactly alike. An individual performs in a particular role with a unique style of his own characteristic pattern of expressive behavior. Even in the case of the relatively inflexible roles, no two individuals will fill the roles in exactly the same way. That is in addition to the nomothetic behavior, one must also consider the idiographic aspects of social behavior. Just as the institutional dimensions were analyzed into components the individual dimension must also be analyzed into component elements of personality and need-disposition (Getzels, Lipham, & Campbell, 1968, p. 75).

The term "personality" has been given a variety of meanings. In order to understand the Getzels/Guba model the term "personality" may be defined as the dynamic organization within the individual of those need-dispositions that govern his unique reactions to the environment. The central analytical elements of personality are the needs-dispositions which may be defined by Parsons and Shils as individual "tendencies to orient an act with respect to objects in certain manners and to expect certain consequences from these actions" (Parsons & Shils, 1951, p. 114).

To fully understand the behavior of specific role incumbents in an institution one must know both the role expectations and the need-dispositions. Needs and expectations may both be thought of as motives for behavior; needs being derived from personal propensities and expectations being derived from institutional requirements. Social behavior will be the direct result deriving from the interactions between the two sets of motives.

The model that has been described may be represented pictorally as shown in Figure 1 (Getzels, 1958, pp. 156-157).

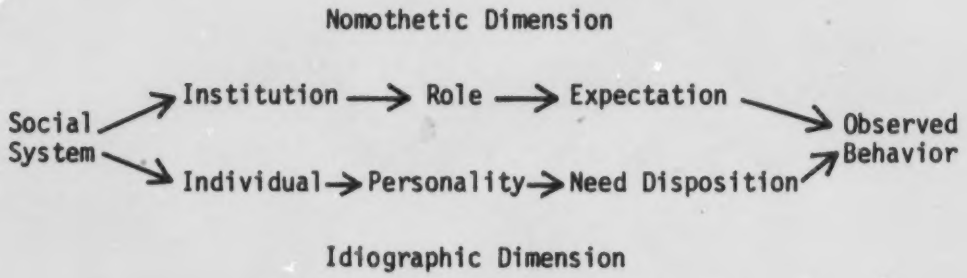

Figure 1. General nomothetic-idiographic model.

The nomothetic axis shown at the top of the diagram consists of institution, role, and role expectations. The social system is thus defined by its institutions: each institution, by its constituent roles; each role, by the expectations attaching to it. Similarly, the idiographic axis shown at the lower portion of the diagram consists of individual, personality, and need-dispositions. A given role is conceived as deriving simultaneously from both the nomothetic and the idiographic dimension. That is to say that social behavior is a result of the interactions between the nomothetic dimensions and the idiographic dimensions. The social behavior of an individual will result as the individual attempts to cope within an environment composed of patterns of expectations for his behavior in ways consistent with his own independent patterns of needs. Thus, the following general equation can be developed: $B = f(R \times P)$, where B is observed behavior, R is a given institutional role defined by the expectations attaching to it, and P is the personality of the particular role incumbent defined by its need-dispositions (Getzels, 1958, pp. 156-157).

In summary, Getzels and Guba have identified two dimensions which are significant in producing organizational behavior, the personal (Idiographic) Dimension and the organizational (Nomothetic) Dimension. According to this model, role behavior results from the interaction of the two dimensions. These two dimensions, nomothetic and idiographic, provide a useful frame of reference for this study on the role of the administrator in a national center.

Another popular approach to role theory is expressed by Gross et al. The theory of role conflict resolution suggested by Gross, Mason and McEachern involves the two elements of legitimacy and sanction. Gross and his associates hypothesized that there were four alternative means of resolving role conflict: (a) conform to expectation A, (b) conform to expectation B, (c) attempt to conform in part to both expectations but with some compromised behavior, (d) avoid conforming to either of the expectations. The theory is built on the assumption that actors are predisposed to conform to expectations they perceive as legitimate, perceived obligations and are predisposed to avoid conforming to expectations which they perceive as illegitimate (Gross, Mason, & McEachern, 1958, pp. 284-285). That is to say if an actor feels that an individual or group has a right to expect him to behave in conformity with a given expectation he will be predisposed to conform to it. An individual who defines an expectation held by others to be illegitimate will be predisposed not to conform. The assumption is made that the individual who fails to conform to an expectation which is perceived as legitimate will result in a negative internal sanction. In other words the theory allows for the prediction

of behavior according to four alternative courses of action. When an individual is confronted with two incompatible expectations the theory describes relationships among the perceived legitimacy of the expectation, the perceived sanctions resulting from nonconformity, the orientation of the individual to these legitimacies and sanctions dimensions and his behavior (Gross, Mason, & McEachern, 1958, pp. 289-298).

The theory has been tested among school superintendents in four incompatible expectation situations and the results were interpreted as supporting the theory. Gross and associates stated they could predict which of these means an individual would select to resolve role conflict. The first factor used in prediction was the right others have to expect the focal role to behave in conformity with their expectations. This type of prediction was based on legitimacy. The second factor was the ability of others to sanction the focal role for nonconformity to their expectations. The third factor was a personality variable which indicated that an individual would be predisposed to give primacy to either legitimacy or sanctioning activities.

The research team hypothesized that individuals would have one of three distinct personality orientations in role conflict situations. The first was a moral orientation in which individuals are believed to emphasize legitimacy and minimize sanctioning ability. The second was an expedient orientation in which the focal role emphasizes sanctioning ability over legitimacy. In the third type the individual sees a net balance between sanctioning ability and legitimacy (Gross, Mason, & McEachern, 1958, p. 299).

The starting point for the development of the Gross et al. theory is the actor's definition of the role conflict situation according to two elements, legitimacy and sanctions. The three elements of this theory that must be identified by the actor are: (a) his feeling about the legitimacy or illegitimacy of each of the incompatible expectations that he perceives is held for him in the situation, (b) his perception of the sanctions to which he will be exposed for nonconformity to each of the incompatible expectations, and (c) his orientation to legitimacy and sanctions (Gross, Mason, & McEachern, 1958, pp. 284-285).

This theory provides a series of assumptions with respect to the legitimacy, sanctions, and orientation dimensions for the prediction of behavior conditions under which position incumbents may be faced with role conflicts. According to Gross et al., it is possible to predict the behavior of an individual who is faced with a perceived role conflict.

The theoretical concepts developed by Gross et al. provide a meaningful background for the administrative role of the administrator in a national center located in an academic environment.

The concept of role-set is useful in clarifying the relationship of actors to one another within organizations. The pivotal role incumbent is identified in this study as the national center administrator. The administrator has superordinates in the hierarchy, i.e., persons to whom the actor must report as well as subordinates to supervisor. The administrator is faced with multiple relationships including interfacing with his own center, academic environment,

Figure 2. Relationship of administrator to members of the role-set.

multiple funding agencies, multiple health service organizations and multiple graduate training programs, in health administration. For the purpose of this study the center administrator is defined as the pivotal position surrounded by five different groups. The nature of the pivotal position is shown in Figure 2.

Because of the complex nature of the administrator's role, it is evident that the dynamics of the roles are complex and that ambiguity and conflict may easily arise.

An administrator may be involved in conflict with one or a combination of any or all of the members of the role-set shown in Figure 2. The source of the conflict stems from contradictory expectations held for the incumbent of a single position by members of his role-set.

In summary, the role of an incumbent grows out of the interaction of the culture, the person, and the situation. According to Sarbin (1954), roles are always personally defined, structured in terms of the perceptions and learned behavior of the actor, demands of the role-set, and the prescription of the social system.

Review of the Literature

The theory of roles and role-sets has engaged the interest of numerous investigators in the fields of educational administration, management science, and social psychology. Since the 1930s the literature on the subject and related areas has grown rapidly in both the empirical and theoretical areas. Of particular research interest within complex educational organizations in recent years has been the

educational administrator. Studies have appeared in educational literature investigating and reporting problems associated with the organizational structure and with its management and administration. Examples of such studies include the School Executive Studies Program in the 1950s, the National Principalship Study in the 1960s and other similar studies in university administration in the 1970s. The need to better understand the role of the educational administrator in both the public school system and the university is well documented in the literature. The literature is abundant with pleas for more empirical analysis on academic organizations.

Many organizational studies have been conducted wherein different kinds of occupations have been examined using role analysis and related role concepts. For example, Ben-David (1958) examined the professional role of the physician in bureaucratized medicine; Burchard (1954) studied the role conflict of military chaplains; Gullahorn (1956) investigated the role conflict experienced by labor union leaders; Getzels and Guba (1954) conducted a study which focused on the role conflict experienced by Air Force officers while assuming the multiple positions of officer and instructor; Gross, Mason, and McEachern (1958) explored the role of the school superintendent; and Baldridge (1971) studied the role conflict of the dean.

These studies report on the role conflict nature of each position. The dean, superintendent, principal and others are often described as the "man in the middle." In reality there are literally dozens of "men in the middle" scattered throughout the formal organizational structure.

Of particular interest in this study is the role of the administrator of a national center operating in an academic environment. The role of the administrator and the organizational positioning of multidisciplinary research, training and service programs in the academic community has raised several important questions. Where should multidisciplinary programs occur in the organizational structure and how should they be managed? Colleges and universities have traditionally sought and recognized the importance of federal funds in a single discipline, but are now faced with the problem of managing federal funds which are for multidisciplinary projects. This source of revenue has become increasingly important in the current climate of higher education which is characterized, in part, by deteriorating financial conditions and declining student enrollments.

The literature reveals several models dealing with the task of organizing for multidisciplinary programs in an academic environment where strong boundaries typically exist around individual disciplines. Cravens, Heathington, and Mundy (1976, pp. 5-6) suggest eight organizational approaches which may be used to coordinate and manage multidisciplinary programs. The major types are identified and described below:

A. Independent Research Laboratory or Institute. Operates much like a non-profit research institute with a high degree of autonomy.

B. University-wide Research Center. Established independent of a particular college for the purpose of drawing faculty together from various disciplines to work on projects and programs.

C. Interdisciplinary College or School. Involves the formation of a college for the purpose of teaching, research, and public service in an interdisciplinary mode.

D. Matrix Approach. Involves multi-college participation (e.g., administrative committee of deans) in policy formulation and monitoring of research activities. Unit functions similar to B above, except there is a greater college/departmental involvement in policy development and general direction.

E. Project Team Approach. Consists of a group of faculty with common interests assembled (by a faculty leader who typically becomes the project director) to develop a research proposal and to accomplish the research project if it is funded.

F. Committee. A group of faculty appointed to a committee with capabilities and interests in examining an area of common interest. The committee members represent various disciplines.

G. College-School Approach. Research unit formed to coordinate research activities and serve faculty in a particular college.

H. Informal faculty group. Consists of an informal assembly of faculty with common interdisciplinary research interests. Normally, an informal leader identified potential participants and attempts to draw them together for discussion and possible research involvement.

There does not appear to be a dominant pattern in the university structure. The process is highly influenced by external and internal pressures and institutional preferences and constraints (Cravens, et al. 1976, p. 4). For the purpose of this study, the university-wide research center described by Cravens et al. is of particular interest. University-wide centers have increased in popularity during the past decade due, in part, to (a) recognition by academicians and funding agencies of the need for multidisciplinary programs, and (b) the increased emphasis placed by governmental agencies upon the use the teamwork approach to solve pressing problems of society.

Only a limited number of studies are available concerning the internal structure of the center concept and the management techniques used for centers. The roles of the center director and the administrator are still in the developmental stages. Howard Baumgartel and

Donald C. Pelz were two of the first researchers to address the leadership problem within complex research organizations. Pelz (1956, pp. 310-325) conducted a series of studies in a large governmental organization devoted to medical research. His findings were related to the performance of the scientists. His results indicated that scientists tend to perform more acceptably when they are closely associated with colleagues having a variety of values, experiences, and disciplines, and when supervisors provide frequent stimulation combined with automony of action. Pelz found that the individual scientific performance is higher in an organization that permits a scientist to pursue his own original ideas, to have contact with several colleagues who share the same value system, and to work under a supervisor who is in the same scientific discipline.

Baumgartel (1957, pp. 344-360) reports the relationship between leadership styles of laboratory directors in a government research organization and certain attitudes and motivations of the scientists within those laboratories. Three leadership styles were identified empirically: directive, laissez-faire, and participating. Participating leadership was characterized by a high degree of interaction and involvement in joint decision-making practices. Laissez-faire leadership was characterized by a low degree of interaction and involvement and high autonomy in subordinate decision making. Directive leadership was characterized by a moderate degree of interaction and involvement, with decision being made most by the laboratory director. The participatory leadership was found to be associated with the highest scores on measures of motivations and attitudes of the scientists.

The results of the Baumgartel study suggest that high-level professional personnel do respond to situational factors in organizations and that the leadership climate is an important variable in determining his motivations and attitudes.

Chet Palmer, Jack Balderston and Steven Lawrence (1972, pp. 1-5) conducted a study to compare the practice of administration in three environments: (a) a medical institute, (b) an industrial laboratory, and (c) a university laboratory. The study involved the commonalities and differences in research administration in these three environments. They concluded that the research administrator has a distinctively different job than those who administer other types of organizations such as university central administration, hospital administration and industrial production. According to Palmer et al., the unique common denominator in research administration is the research process and the character of the people with whom the administrator deals the scientists.

Norman Kaplan (1959, pp. 20-41) describes the role of the research administrator as far from standardized, as is to be expected since research organizations themselves are far from standardized. Kaplan places the research administrator as "a man in the middle" frequently caught between the conflicting demands of the scientist and those of central administration. Kaplan further identified the role of the research administrator as being ambiguous. Kaplan states that the research administrator is usually involved in high level organizational decisions, but can never take direct credit for the accomplishments within the organization, yet, he may receive complaints

from those who feel that goals of the organization are not being accomplished.

While a number of research studies appear in the literature about role set problems of the administrator in the academic and research environment, the literature reveals no studies of the role of the administrator in a multidisciplinary national center conducting research and training in health related areas in an academic environment. This study is concerned with this problem and the findings of this study will help better understand the nature of the role of the administrator and thus help improve the management of organizations.

CHAPTER III

METHODOLOGY AND HYPOTHESES

Introduction

This chapter contains a discussion of the statistical design and a list of the hypotheses developed for the study. It discusses the population and sampling procedures, details on instruments, data collection and processing procedures, and the methods of analysis used to test the hypotheses.

Instrument Development and Population

In order to determine the perceived role of the administrators in a multidisciplinary organization, a questionnaire covering 10 major management areas with 59 items was developed using a Likert scale. The questionnaire was developed by a team of experts using a modification of the Nominal Group Process (Delbecq, Van de Ven, & Gustafson, 1975, pp. 108-148) and tested in five national centers before implementation. The questionnaire requested demographic data on each participant, his organization, and his educational opinion about the competencies needed by an administrator in 10 major management areas. The 10 subscales were identified as: (a) Principles of Organization and Management, (b) Organizational Development, (c) Personnel Management, (d) Direction and Communication, (e) Controlling, (f) Financial Development and Accounting, (g) Economics and Cost Analysis,

(h) External Organizational Relationships, (i) Management Information Systems, and (j) Health Care Delivery Systems.

A complete copy of the questionnaire is shown in Appendix A.

In the study six groups were requested to respond to the questionnaire on the perceived role of the center administrator. The six groups were identified as: (a) Directors--Mental Retardation Research and Human Development Centers and University Affiliated Training Centers, (b) Administrators--Mental Retardation Research and Human Development Centers and University Affiliated Training Centers, (c) Coordinators--State Programs of Mental Retardation, (d) Governmental Staff (agencies that support the centers), (e) Directors--Graduate School Health Administration Programs, (f) Directors--Community Developmental Disabilities Programs.

These six groups were selected as the population, because of their close working relationship with the administrators and because of their knowledge of the mission and programs of the centers.

Statistical Design

As the basis for an experimental design 10 hypotheses were constructed around the perceived role of the administrator in 10 functional areas of management. The 10 hypotheses were:

Hypothesis 1--The responses of the administrators on subscale A (Principles of Organization and Management) will be significantly different from the responses of the other five groups.

Hypothesis 2--The responses of the administrators on subscale B (Organizational Development) will be significantly different from the responses of the other five groups.

Hypothesis 3--The responses of the administrators on subscale C (Personnel Management) will be significantly different from the responses of the other five groups.

Hypothesis 4--The responses of the administrators on subscale D (Direction and Communication) will be significantly different from the responses of the other five groups.

Hypothesis 5--The responses of the administrators on subscale E (Controlling) will be significantly different from the responses of the other five groups.

Hypothesis 6--The responses of the administrators on subscale F (Financial Development and Accounting) will be significantly different from the responses of the other five groups.

Hypothesis 7--The responses of the administrators on subscale G (Economics and Cost Analyses) will be significantly different from the responses of the other five groups.

Hypothesis 8--The responses of the administrators on subscale H (External Organizational Relationships) will be significantly different from the responses of the other five groups.

Hypothesis 9--The responses of the administrators on subscale I (Management Information Systems) will be significantly different from the responses of the other five groups.

Hypothesis 10--The responses of the administrators on subscale J (Health Care Delivery Systems) will be significantly different from the responses of the other five groups.

In order to test these hypotheses the chi square method was run on each of the 59 items in the 10 subscales for each group (McNemar, 1955, pp. 212-242). Items within a subscale with a p-value below 0.05 were considered to be significant. From this method the perceived role of the administrator in each of the functional management areas was tested.

In order to develop a better understanding of the perceived role of the administrator, an analysis of variance with multiple groups was run (Kirk, 1968, pp. 171-182, 217-227) on all 59 items. From these analyses, group means were calculated along with the p-values.

Items judged to be significant were selected from those with p-values below the 0.05 level. The Newman-Keuls method was used to probe the nature of the differences between treatment means following a significant overall F-value (Winer, 1962, p. 309).

A total of rank order group means for the 10 subscale was also produced to help develop and understand relationships between the six groups.

The 10 hypotheses are discussed in the next chapter. Group differences and relationships are identified and discussed.

CHAPTER IV

RESULTS

Introduction

Multidisciplinary health services administration in an academic environment is rapidly changing. Previous training of administrators was focused on internal operations, with little emphasis on events outside institutional halls. The trend is to a broader training base so that an administrator can be more effective in an institutional and program setting. This study investigated the perceived role of the multidisciplinary administrator in 10 major management areas.

This chapter contains sections devoted to the questionnaire response, demographic data related to participants and his organization as well as the major finding of the study. Hypotheses stated in Chapter III are tested and general conclusions concerning the relative relationship between group responses are discussed.

Questionnaire Response

The questionnaire was mailed to 316 individuals in six different groups. One hundred and seventy (170) individuals returned completed questionnaires for a 54% response rate. A summary of the responses by groups is shown in Table 1.

Table 1

Questionnaire Response Summary

Groups	# Mailed	# Received	% Returned
Directors, University Affiliated Facilities and Mental Retardation Research Centers	50	27	54
Administrators, University Affiliated Facilities and Mental Retardation Research Centers	47	30	64
Coordinators, State Programs of Mental Retardation	53	26	49
Governmental Staff	22	16	73
Graduate Program Directors	38	24	63
Directors, Community Developmental Disabilities Programs	106	47	44
TOTAL	316	170	54

Demographic Data

Each person responding to the questionnaire was requested to provide some limited personal and organizational data. The personal data requested included information on educational background, administrative experience and age. The organizational data requested included information on organizational base, size of organization, and operating budget.

From the personal data collected the groups completing the questionnaire can be described according to academic background, administrative experience and age. These data are shown in Tables 2 through 4.

The academic background of the participants was very impressive as shown in Table 2.

Table 2

Academic Background

Groups	Respond-ing	BA/BS #	BA/BS %	MS/MA #	MS/MA %	EdD #	EdD %	PhD #	PhD %	MD #	MD %
Directors, University Affiliated Facilities & Mental Retardation Research Centers	27			4	14	3	11	9	33	12	44
Administrators, University Affiliated Facilities & Mental Retardation Research Centers	30	8	27	18	60	1	3	2	7	1	3
Coordinators, State Programs of Mental Retardation	26	2	8	15	58			7	27	1	4
Governmental Staff	16			11	69			3	19		
Graduate Program Directors	23	1	4	3	13			16	70	2	9
Directors, Community Developmental Disabilities Programs	47	5	11	28	60	4	8	4	8	5	11
TOTAL	169*	16	9	79	47	8	5	41	24	21	12

*One person indicated no degree

From Table 2 the following conclusions can be made about the academic backgrounds of the groups: (a) 88% of the directors hold the doctoral degree (44% MD, 33% PhD, 11% EdD, and 11% hold the masters degree); (b) 60% of the administrators hold the masters degree, 13% hold the doctoral degree, and 27% hold the bachelor

degree; (c) 31% of the coordinators of state mental retardation programs hold the doctoral degree, 58% hold the masters degree, and 8% hold the bachelor degree; (d) 69% of the governmental staff hold the masters degree and 19% hold the doctoral degree; (e) 79% of the graduate school program faculty hold the doctoral degree and 13% hold the masters degree; and (f) 60% of the community developmental disabilities directors hold the masters degree, 27% hold the doctoral degree, and 11% hold the bachelor degree.

As shown in Table 3, the questionnaire results indicated that a high percentage of all groups had more than 5 years of administrative experience. These data revealed that 93% of all directors had more than 5 years administrative experience as did 77% of the administrators, 80% of the coodinators of state programs of mental retardation, 94% of the governmental staff, 83% of the graduate school program directors, and 64% of the community developmental disabilities directors.

Administratively, the groups were well experienced in these various positions in their respective organizations.

The age range for all six groups was from 26 to 64 with the average age per group as follows: directors--47, administrators--42, coordinators of state programs of mental retardation--41, governmental staff--50, graduate school program directors--41, and community developmental disabilities directors--39. Table 4 provides both average age and range by groups.

From these personal data items, information was obtained from a representative group of individuals who are interested, knowledgeable

Table 3

Administrative Experience - Years

Groups	< 1		1-2		2-3		3-4		4-5		> 5	
	#	%	#	%	#	%	#	%	#	%	#	%
Directors, University Affiliated Facilities & Mental Retardation Research Centers							2	7			25	93
Administrators, University Affiliated Facilities & Mental Retardation Research Centers			1	3	3	10			3	10	23	77
Coordinators, State Programs of Mental Retardation	1	4	1	4			1	4	2	8	21	80
Governmental Staff									1	6	15	94
Graduate Program Directors					1	4	1	4	2	9	19	83
Directors, Community Developmental Disabilities Programs	1	2	3	6	6	13	4	9	3	6	30	64
TOTAL	2	1	5	3	10	6	8	5	11	6	133	79

and concerned about health services administration. These data were extremely valuable in analyzing the response to the substantive section of the questionnaire.

From the organizational data collected, a wide variety of organizations participated in the study. The survey revealed that 71% of the Mental Retardation Research Centers and University Affiliated Training Centers were located at public universities along with 65%

of the graduate programs in health administration. As expected, the organizational base for state programs in mental retardation and community developmental disabilities programs were primarily based at the state level.

Table 4

Age

Groups	$\bar{X}$	Range
Directors, University Affiliated Facilities & Mental Retardation Centers	47	30-59
Administrators, University Affiliated Facilities & Mental Retardation Centers	42	29-64
Coordinators, State Programs of Mental Retardation	41	28-58
Governmental Staff	50	31-59
Graduate Program Directors	41	27-64
Directors, Community Developmental Disabilities Programs	39	26-56

The survey also indicated that more than 40,000 individuals are currently employed in the various institutions. Of this number, 11,942 are classified as professionals and 28,354 as support personnel. This provided a professional to support ratio of 1:2.37.

The number of clients served per year by the institutions surveyed ranged from less than 100 to more than 5,000. More than 50% of the institutions surveyed served more than 500 to 1,500 clients per year.

The operating budgets for the institutions ranged from less than $250,000 per year to more than $5,000,000 per year. Approximately 50% of the institutions had an operating budget between $500,000 and $3,000,000 per year. Budgets over $5,000,000 were usually reported from state mental retardation programs or community developmental disabilities programs. Only 2 national centers reported a budget greater than $5,000,000.

The information compiled from the demographic portion of the questionnaire indicated that a wide variety of organizations are involved in the administration and management of health related research, training, and service. These data related to budgets, employment, and clients served per year is impressive. These data also indicate the importance, magnitude, and impact of the administrator on health related research, training, and service.

Hypotheses Tested

As outlined in Chapter III the chi square statistical method was used to test each of the 10 hypotheses. Eight of the ten hypotheses held true when subjected to the chi square method. Each hypothesis is discussed in detail in the following paragraphs.

Hypothesis 1 conjectured there would be significant differences in the responses of the groups concerning subscale A--Principles of Organization and Management. Of the four items under subscale A in Table 5, no significant difference was noted in any item. The general conclusion from subscale A indicated that administrators would have very little, if any, role conflict with the five groups

Table 5

Chi Square Analysis

Subscale	Center Directors			Governmental Staff			Graduate School Program Directors			Coordinators State Programs			Community Developmental Disabilities Directors		
	Chi Square	df	p	Chi Square	df	p	Chi Square	df	p	Chi Square	df	p	Chi Square	df	p
A. Principles of Organization and Management															
Organizational Planning	3.6348	2	.1608	4.2678	2	.1167	1.2745	2	.5339	3.5871	3	.3097	.8726	2	.6525
Program Planning	1.4497	3	.6984	3.3861	3	.3363	3.2207	3	.3597	3.5954	3	.3087	3.7635	4	.5591
Decision Making	5.0283	4	.2843	1.7556	2	.5810	2.0089	3	.5744	4.4759	2	.7914	.2363	2	.8884
Policy Making	3.4851	3	.3230	2.6881	3	.5551	4.4202	3	.2188	2.8841	2	.2354	3.6043	3	.3075
B. Organizational Development															
Nature and Purpose	2.5408	4	.6408	.6442	2	.7297	2.3709	3	.5023	1.5394	3	.6777	2.9564	3	.5999
Scope of Management Authority	6.4587	3	.0905	3.0789	3	.3810	5.4935	4	.2400	9.1643	3	.0271*	7.5986	2	.0221*
Assignment of Activities	6.8013	3	.0778	.5784	2	.7532	4.5529	4	.3367	4.2597	3	.2341	7.0970	3	.0682
Determination Line-Staff Relationships	4.9558	4	.2918	3.5374	3	.3161	4.2750	4	.3709	5.4644	3	.1399	4.6789	4	.3221
Provision of Support Services	5.8252	3	.1196	9.7467	4	.0448*	17.9212	4	.0017*	32.4732	4	0000*	31.6398	4	0000*
Structuring of Committees	3.3861	3	.0336*	3.0740	4	.5480	6.2345	4	.1819	9.9401	4	.0414*	3.1675	4	.5327
C. Personnel Management															
Personnel Administration	12.1336	3	.0074*	14.6026	4	.0061*	31.7747	4	0000*	33.0319	4	0000*	23.3264	4	.0003*
Recruitment Procedures	4.1861	3	.2414	8.4691	3	.0370*	27.5254	4	.0001*	25.3736	5	.0003*	16.8475	4	.0026*
Supervision & Training	5.5030	4	.2391	3.4782	3	.3239	14.0100	4	.0078*	5.3944	4	.2489	2.9670	3	.6016
Performance Evaluation & Promotions	.7041	2	.7087	3.8732	3	.2751	7.6336	3	.0537*	3.8526	3	.2775	7.2272	4	.1241
Employee-Employer Relationship	3.3593	2	.1849	3.7640	3	.2879	15.9300	4	.0036*	9.1259	4	.0579	14.4064	4	.0066*

*Significant Difference

Table 5 (Contd.)

Chi Square Analysis

Subscale	Center Directors			Governmental Staff			Graduate School Program Directors			Coordinators State Programs			Community Developmental Disabilities Directors		
	Chi Square	df	p	Chi Square	df	p	Chi Square	df	p	Chi Square	df	p	Chi Square	df	p
D. Direction & Communication															
Communication of Organizational Goals	2.9667	3	.6015	3.5121	2	.1711	8.4857	3	.0367*	6.1511	3	.1037	2.8124	2	.2442
Facilitate Communication within the Organization	2.8500	3	.5826	3.3618	2	.1847	1.9153	3	.5943	4.6667	4	.3235	1.6669	2	.5617
Communication with the Media	4.9864	4	.2886	3.5483	4	.5271	2.0571	4	.7285	3.3060	4	.5103	1.5609	4	.8174
Public Relations Communication	5.5540	4	.2347	2.9854	3	.6045	2.5650	4	.6365	3.9548	4	.5863	2.1690	3	.5416
Leadership within Organization	1.4429	2	.5092	3.2833	3	.3507	6.2389	3	.0998	.0412	2	.9804	.6223	2	.7374
Leadership outside Organization	5.4587	3	.1403	4.0159	4	.4053	14.7586	3	.0025*	.1189	2	.9420	1.3106	3	.7307
E. Controlling															
Program Operations	6.7321	4	.1504	6.8148	4	.1457	3.0673	4	.5492	6.2462	4	.1811	5.4236	5	.3671
Organizational Operations	10.3107	3	.0016*	12.2793	3	.0007*	10.8629	4	.0283*	13.4641	3	.0043*	6.9509	4	.1382
Policies Development	7.3386	4	.1188	9.6920	3	.0214*	1.8255	3	.6137	1.5593	3	.6732	1.5779	3	.6690
Support Systems	11.7550	3	.0087*	12.1791	3	.0073*	25.1775	4	.0002*	40.5210	3	.0000*	44.3743	3	.0000*
Personnel System	6.7410	3	.0799	8.1723	4	.0852	18.6841	4	.0013*	35.6294	4	.0000*	32.5648	4	.0000*
Financial System	4.9447	4	.2930	6.7658	4	.1485	12.7736	3	.0057*	23.7715	3	.0001*	15.1387	3	.0022*
F. Financial Development and Accounting															
Basic Organizational Budgeting	6.7445	3	.0798	8.5353	4	.0736	12.8761	4	.0123*	13.1290	4	.0111*	14.8916	3	.0024*
Program Budgeting	3.3514	3	.3411	5.3607	4	.2520	8.9875	3	.0293*	14.8404	4	.0056*	15.2335	3	.0021*
Basic Organizational Accounting	5.8339	3	.1191	12.7039	4	.0132*	36.9433	5	.0000*	39.8046	5	.0000*	44.6129	4	.0000*
Individual Program Accounting	7.5240	4	.1104	9.5578	5	.0889	36.9900	5	.0000*	37.8711	5	.0000*	28.7479	4	.0001*

*Significant Difference

Table 5 (Contd.)

Chi Square Analysis

Subscale	Center Directors			Governmental Staff			Graduate School Program Directors			Coordinators State Programs			Community Developmental Disabilities Directors		
	Chi Square	df	p	Chi Square	df	p	Chi Square	df	p	Chi Square	df	p	Chi Square	df	p
Funds Development - Federal Government	1.1848	3	.7603	3.4911	3	.3222	7.8221	3	.0494*	9.8047	3	.0204*	7.9288	3	.0471*
Funds Development - State Government	2.2929	2	.3182	3.2731	3	.3522	13.7810	3	.0037*	5.3891	4	.2494	4.7147	3	.1931
Funds Development - Local Government	1.5453	3	.6764	2.7036	4	.6118	6.7339	4	.1503	12.5210	5	.0286*	5.2825	4	.2593
Funds Development - Labor and Industry	4.8710	5	.5666	2.3063	3	.5146	10.8497	4	.0284*	15.2994	5	.0097*	11.0082	4	.0266*
Third Party Payment	4.3161	5	.5067	10.8528	4	.0284*	22.2787	4	.0004*	23.8955	5	.0005*	35.9270	4	.0000*
User Fees Development/ Collection	4.1792	5	.5258	10.4662	5	.0632	21.9314	5	.0009*	23.3766	5	.0005*	36.3196	5	.0000*
Philanthropy	2.9567	5	.7094	3.3900	3	.3368	2.6912	4	.6140	17.7285	5	.0038*	11.5679	5	.0414*
G. Economics and Cost Analysis															
Cost Benefit Analysis	1.8716	3	.6087	7.7944	4	.0992	18.5959	4	.0013*	23.4064	4	.0003*	15.3678	4	.0045*
Manpower Development	4.9702	5	.5791	8.8003	4	.0661	4.3217	3	.2281	12.1942	4	.0163*	6.6242	3	.0842
Impact of Economic Factors on the Supply of Developmental Disabilities Services	5.1855	5	.3947	4.3915	4	.3562	8.9632	3	.0296*	8.8088	4	.0659	4.9611	3	.1738
Relationship between Economic Status and Need for Developmental Disabilities Services	6.9427	5	.2249	8.2699	4	.0820	15.7331	3	.0017*	7.6360	4	.1056	10.0710	4	.0392*
H. External Organizational Relationship															
Program Relationship with Federal Government	3.7050	4	.5505	3.9249	3	.2693	5.9714	3	.1122	1.6705	3	.6480	3.7441	5	.5892
Program Relationship with State Government	5.2694	4	.2605	3.9249	3	.2693	4.9702	3	.1731	2.5663	3	.5336	.8156	3	.8471
Program Relationship with Local Government	4.7219	5	.5475	3.6800	4	.5468	7.2650	4	.1222	1.4812	4	.8313	5.5230	4	.2374

*Significant Difference

Table 5 (Contd.)

Chi Square Analysis

Subscale	Center Directors			Governmental Staff			Graduate School Program Directors			Coordinators State Programs			Community Developmental Disabilities Directors		
	Chi Square	df	p	Chi Square	df	p	Chi Square	df	p	Chi Square	df	p	Chi Square	df	p
Program Relationship with Other Agencies	4.2363	4	.3759	3.7039	3	.2951	3.7385	3	.2909	1.5373	3	.6782	2.0115	3	.5739
Departmental Relationship with Parent Organization	3.6527	4	.5428	8.1107	4	.0874	3.5735	4	.5309	3.2819	4	.5142	2.4776	4	.6521
Political Matters Related to Developmental Disabilities Services	6.7767	5	.2377	8.4032	4	.0777	2.6446	3	.5475	4.8804	4	.2998	5.4001	4	.2483
Legal Implications Related to Developmental Disabilities Services	2.7497	4	.6037	3.6895	4	.5483	5.3755	4	.2506	4.8433	4	.3038	4.3838	3	.2222
I. Management Information Systems															
Development of Records Systems	3.8233	3	.2809	8.2620	4	.0822	21.7041	4	.0005*	21.5454	5	.0010*	14.8078	3	.0025*
Development of Policy on the Use & Abuse of Confidential Information	4.1640	4	.3853	2.6195	3	.5431	7.6055	4	.1069	5.8982	4	.2065	1.1068	3	.7786
Computer and Technology of Information	7.3124	5	.1984	6.1597	4	.1872	11.9787	4	.0178*	15.7654	5	.0081*	14.3534	3	.0030*
Operational Responsibility of Data Processing System	10.5546	4	.0321*	8.1101	4	.0874	23.0143	5	.0006*	19.5952	5	.0019*	18.5871	4	.0014*
J. Health Care Delivery Systems															
Integration of Developmental Disabilities Program with Community	3.8797	5	.5691	2.4353	4	.6598	13.9765	5	.0162*	3.0920	5	.6887	6.0431	4	.1956
Liaison Relationship with Community Health Agencies	4.7243	5	.5478	1.6401	4	.8036	7.0875	5	.2142	3.3720	5	.6456	3.1800	4	.5306
Represents the Organization or Program to the Community	1.7668	5	.8805	1.0038	4	.9082	11.4928	5	.0426*	6.1345	5	.2934	4.6576	4	.3245
Determines and Identifies Community Needs	5.6995	5	.3370	1.4575	4	.8353	12.0150	4	.0175*	11.3083	5	.0458*	16.7849	4	.0026*
Determines Community Resources for Developmental Disabilities Services	4.2120	5	.5212	2.3753	4	.6706	3.5196	4	.5228	.1356	4	.9956	4.7836	4	.3103
Determines Types and Extent of Evaluation Services for Developmental Disabilities	5.1230	5	.4022	2.2455	4	.6942	6.7905	4	.1471	1.8236	4	.7708	11.6447	4	.0204*

*Significant Difference

in the general area of principles of organization and management. All five groups agreed with the administrators as indicated by the chi squared value on items (a) organizational planning, (b) program planning, (c) decision making, and (d) policy making. It should be pointed out that while all five groups agreed that administrators should be involved in the four items above, no attempt was made to determine the degree of involvement in each area.

Hypothesis 2 conjectured there would be significant differences in the response of the groups concerning subscale B - Organizational Development. Of the six items under subscale B in Table 5, significant differences were noted on three items (scope of management authority, provision of support services, and structuring of committees). The value of chi square on these items indicated significant differences among two groups for scope of authority, four groups for provision of support service, and one group for structuring of committees. The general conclusion from subscale B indicated that administrators are likely to encounter role conflicts in authority relationships when dealing with external agencies and encounter strong opposition when dealing with management of support services.

Hypothesis 3 conjectured there would be significant differences in the responses of the groups concerning Subscale C - Personnel Management. Of the five items under subscale C, in Table 5, significant differences were noted on four items. The value of chi square on these items indicated significant differences among all groups for personnel administration, four groups for recruitment procedures, one group for supervision and training, and two groups

for employee-employer relationships. No significant differences were noted for performance evaluation and promotions. The general conclusion for subscale C indicated that administrators will likely experience major role conflict from most of the groups in dealing with personnel management. Most of the conflict will likely be from groups outside the parent organization. For example, graduate school program directors indicated possible role conflicts on all five items under subscale C. Coordinators of state programs and community developmental disabilities directors also indicated possible role conflicts in such areas related to personnel management. In general there was consistency between the responses of the administrators and center directors.

Hypothesis 4 conjectured there would be significant differences in the responses of the groups concerning subscale D - Direction and Communication. Of the six items under subscale D, in Table 5, significant differences were noted on two items by one group. The value of chi square on these two items indicated that administrators would likely experience role conflicts with graduate school program directors in the communication of organizational goals and with leadership within the organization. There was an unusually close relationship shown between the other groups and the administrators. Administrators are, therefore, likely to be effective in areas dealing with the communication of organizational goals, both within and outside the parent organization.

Hypothesis 5 conjectured there would be significant differences in the responses of the groups concerning subscale E - Controlling.

Of the six items under subscale E, in Table 5, significant differences were noted on five items. The value of chi square on these items indicated significant differences among four groups for organizational operations, five groups for support systems, three groups for personnel system, three groups for financial system, and one group for policies development. No significant difference was noted for program operations. The general conclusion for subscale E indicated that administrators will likely incur major role conflicts in organizational controlling. Although there was strong opposition against the role of the administrator in organizational controlling, the strongest opposition came from outside the parent organization, with only minimal opposition from center directors.

Hypothesis 6 conjectured there would be significant differences in the responses of the groups concerning subscale F - Financial Development and Accounting. Of the 11 items under subscale F in Table 5, significant differences were noted on all 11 items. The value of chi square on these items indicated a significant difference among three groups on basic organizational budgeting, three groups on program budgeting, four groups on basic organizational accounting, three groups on individual program accounting, three groups on funds development - federal, one group on funds development - state, one group on funds development - local, two groups on Funds development-labor and industry, three groups on third party payment, three groups on user fees development and collection, and two groups on philanthropy. In this subscale, there were no significant differences between the responses of the administrators and center directors, and

only one significant difference from governmental staff.

There were strong oppositional roles expressed between graduate school program directors, coordinators state programs, and community developmental disabilities directors. The general conclusion for subscale F indicated that administrators will likely experience major role conflicts with outside groups in dealing with organizational financial development and accounting procedures, but minimal conflict with center directors and governmental staff.

Hypothesis 7 conjectured there would be significant differences in the responses of the groups concerning subscale G - Economics and Cost Analysis. Of the four items in subscale G, in Table 5, significant differences were noted on all four items. The value of chi square on these items indicated significant differences among three groups for cost benefit analysis, one group for manpower development, one group for the impact of economic factors on the supply of developmental disabilities services, and two groups for the relationship between economic status and need for developmental disabilities services. In this subscale, there were no significant differences between the responses of the administrators, center directors, or governmental staff. The general conclusion for subscale G indicated that administrators will likely experience role conflict problems with outside groups dealing with economic and cost analysis.

Hypothesis 8 conjectured there would be significant differences in the responses of the groups concerning subscale H - External Organizational Relationship. Of the seven items under subscale H in Table 5, no significant differences were indicated by the chi square

method. This means that all five groups realize that the administrator must be involved in many external relationships, but the groups have differed as shown on previous hypotheses as to the extent and nature of involvement in external relationships.

Hypothesis 9 conjectured there would be significant differences in the responses of the groups concerning subscale I - Management Information System. Of the four items shown under subscale I in Table 5, a significant difference was noted on three items. The value of chi square on these items indicated significant differences among three groups for development of records systems, three groups for computer technology of information, and four groups for operational responsibility of data processing systems. No significant differences occurred between administrators and governmental staff and only one between administrators and center directors. The general conclusion for subscale I indicated that administrators will likely experience major role conflicts from most of the groups outside the parent organization in dealing with managment information systems.

Hypothesis 10 conjectured there will be significant differences in the responses of the groups concerning subscale J - Health Care Delivery Systems. Of the six items under subscale J in Table 5, significant differences were noted on four items. The value of chi square on these items indicated a significant difference among one group for integration of developmental disabilities program with community, one group for liaison relationship with community health, three groups for determiners and identifiers community needs and one group for determinerstypes and extent of evaluation services for

developmental disabilities. No significant differences were noted between group as administrators related to representing the organization in the community or in the determination of community resources for developmental disabilities.

A number of interesting trends and relationships evolved from the analysis of the 10 hypotheses. Of the 10 general hypotheses, 8 were accepted at the 0.05 level by the chi square method.

The major relationships identified by the chi square method were as follows:

1. Directors and administrators responded in a similar fashion on all 10 subscales. The most likely role conflict situation between these two groups would occur in the area of organizational control.
2. Governmental staff and administrators are likely to incur role conflict situations when dealing in areas such as organizational development, personnel development, and organizational control.
3. Directors of graduate school programs and administrators are likely to experience role conflict in areas related to personnel management, organizational control, financial management and accounting, economics and cost analysis, and management information systems.
4. Coordinators of state programs and administrators are likely to experience role conflict situations in areas related to organization development, personnel development, organizational control, financial development and accounting, economics and cost analysis, and management information systems.
5. Community developmental disabilities directors and administrators are likely to experience role conflict situations in areas related

to organizational development, personnel management, organizational control, financial development and accounting, economics and cost analysis, management information systems, and health care delivery systems.

6. All five groups agreed with the responses from the administrators concerning the involvement of the administrator in principles of organization and management, and external organizational relationships.

In order to obtain an overview of each of the 59 items listed in the 10 subscales, an analysis of variance with multiple groups was run on each of the 59 items. From the analyses, group means were calculated along with p-values. The analysis of variance for each item is shown in Table 6. P-values below the 0.05 level indicated significant group mean differences. While these data do not identify role conflicts between groups, they do identify areas of suspect. Out of the 59 items analyzed, 28 had a p-value of less than 0.05. From these data it can be generalized that directors, administrators, and governmental staff tend to respond in similar patterns to the 59 items, and coordinators of state programs, graduate school program directors, and community developmental disabilities directors tend to cluster together. The chi square analysis in Table 5 also confirms these findings.

The Newman-Keuls method was used to probe the nature of the differences between treatment means following a significant overall F-value. This method revealed that administrators tend to rank the

Table 6

Analysis of Variance

Variables	Directors	Adminis.	Coord. State Prog.	Gov't Staff	Grad. Prog. Directors	Commun. D.D. Dirs.	P
Organizational Planning	4.63	4.87	4.58	4.69	4.71	4.79	1.0000
Program Planning	3.81	3.97	4.00	4.25	4.25	4.09	1.0000
Decision Making	3.78	4.33	4.19	4.62	4.33	4.28	0.0426*
Policy Making	4.11	4.40	4.58	4.25	4.42	4.47	1.0000
Nature and Purpose of Organization	4.26	4.40	4.31	4.31	4.42	4.57	1.0000
Scope of Management Authority	4.15	4.67	4.04	4.56	4.12	4.21	0.1146
Assignment of Activities	3.52	4.10	3.65	3.94	3.58	3.60	0.0927
Determination of Line-Staff Relationship	3.81	4.37	3.88	3.87	3.92	3.96	0.3887
Provision of Support Services	4.15	4.70	3.15	3.81	3.46	3.38	0.0000*
Structuring of Committees	3.37	3.67	3.19	3.50	3.46	3.36	1.0000
Personnel Administration	4.11	4.83	3.27	3.75	3.21	3.72	0.0000*
Recruitment Procedures	4.00	4.43	2.92	3.69	2.92	3.36	0.0000*
Supervision & Training	3.26	3.83	3.27	3.37	2.87	3.49	0.0103*
Performance Evaluation & Promotions	3.93	4.07	3.62	3.75	3.50	3.55	0.1745

*Significant Difference

Table 6 (Contd.)

Analysis of Variance

Variables	Directors	Adminis.	Coord. State Prog.	Gov't Staff	Grad. Prog. Directors	Commun. D.D. Dirs.	P
Employer-Employee Relationship	4.26	4.60	3.85	4.12	3.54	3.81	0.0012*
Communication of Organizational Goals	4.07	4.27	4.19	4.50	4.50	4.36	1.0000
Facilitate Communication Within Organization	4.11	4.40	3.88	4.00	4.12	4.19	0.3885
Communication With Media	3.41	3.57	3.58	3.25	3.46	3.64	1.0000
Public Relations Communication	3.33	3.57	3.58	3.25	3.25	3.79	0.1338
Leadership Within Organization	4.22	4.43	4.46	4.00	4.37	4.47	1.0000
Leadership Outside The Organization	3.67	3.87	3.92	3.50	4.21	3.79	0.3056
Program Operations	3.30	3.73	3.31	3.37	3.50	3.47	1.0000
Organizational Operations	3.81	4.53	3.73	3.62	3.71	3.98	0.0071*
Policies Development	3.70	4.33	4.23	3.94	4.17	4.17	0.2213
Support Systems	4.11	4.77	3.08	3.75	3.29	3.34	0.0000*
Personnel System	4.19	4.67	3.00	3.81	3.46	3.45	0.0000*
Financial System	4.52	4.83	3.65	4.19	4.00	4.13	0.0005*
Basic Organizational Budgeting	4.52	4.83	3.85	4.06	3.96	4.23	0.0033*

*Significant Difference

Table 6 (Contd.)

Analysis of Variance

Variables	Directors	Adminis.	Coord. State Prog.	Gov't Staff	Grad. Prog. Directors	Commun. D.D. Dirs.	p
Program Budgeting	4.41	4.67	3.62	4.19	3.92	4.04	0.0035*
Program Relationships With State Government	3.85	4.07	4.15	3.81	3.75	4.04	1.0000
Program Relationships With Local Government	3.67	3.97	3.69	3.69	3.75	3.72	1.0000
Program Relationships With Other Agencies	3.63	3.93	3.81	3.62	3.67	3.81	1.0000
Dept. Relationships Within The Parent Organiz.	3.70	4.10	3.77	3.81	3.75	4.04	1.0000
Legal Implications Related To D.D. Services	3.81	4.20	3.85	3.62	3.62	4.02	0.3600
Political Matters Related To D.D. Services	3.37	4.00	3.88	3.44	3.62	3.83	0.3146
Development of Record System	4.22	4.47	3.12	3.69	2.96	3.68	0.0000*
Devel. of Policy-Use & Abuse Of Confidential Info.	4.63	4.87	4.58	4.69	4.71	4.79	1.0000
Computer Technology of Info.	3.81	3.97	4.00	4.25	4.25	4.09	1.0000
Operational Responsibility Of Data Processing Systems	3.78	4.33	4.19	4.62	4.33	4.28	0.0426*
Integration of D.D. Programs With Community	4.11	4.40	4.58	4.25	4.42	4.47	1.0000

*Significant Difference

Table 6 (Contd.)

Analysis of Variance

Variables	Directors	Adminis.	Coord. State Prog.	Gov't Staff	Grad. Prog. Directors	Commun. D.D. Dirs.	P
Liaison Relationships With Community Health Agencies	4.26	4.40	4.31	4.31	4.42	4.57	1.0000
Represents The Organization or Program to Commun.	4.15	4.67	4.04	4.56	4.12	4.21	0.1146
Basic Organizational Accounting	4.33	4.73	2.31	3.50	2.54	3.04	0.0000*
Individual Program Accounting	4.11	4.27	2.12	3.37	2.42	2.87	0.0000*
Funds Development-Federal Government	4.33	4.47	3.50	4.06	3.75	3.91	0.0051*
Funds Development-State Government	4.41	4.53	3.81	4.06	3.67	4.11	0.0177*
Funds Development-Local Government	4.22	4.30	3.08	4.06	3.67	3.72	0.0016*
Funds Development-Labor & Industry	3.85	4.20	2.81	4.06	3.62	3.32	0.0004*
Third Party Payment	4.07	4.63	2.77	3.81	3.50	3.19	0.0000*
User Fees Development/ Collection	3.74	4.40	2.50	3.56	2.87	2.83	0.0000*
Philanthropy	3.63	3.93	2.62	3.44	3.71	3.15	0.0009*
Cost Benefit Analysis	4.41	4.63	3.00	4.06	3.67	3.81	0.0000*

*Significant Difference

Table 6 (Contd.)

Analysis of Variance

Variables	Directors	Adminis.	Coord. State Prog.	Gov't Staff	Grad. Prog. Directors	Commun. D.D. Dirs.	p
Manpower Development	3.63	4.13	3.15	3.44	3.54	3.60	0.0480*
Impact on Economic Factors on the Supply of D.D. Srvs.	3.70	4.23	3.38	3.69	3.17	3.79	0.0333*
Relationship-Economic Status-Need for D.D. Srvs.	3.56	4.23	3.46	3.44	2.83	3.60	0.0060*
Program Relationships With Federal Government	3.85	4.07	3.81	3.81	3.71	3.68	1.0000
Determines & Identifies Community Needs	3.52	4.10	3.65	3.94	3.58	3.60	0.0927
Determines Commun. Resources for D.D. Srvs.	3.81	4.37	3.88	3.87	3.92	3.96	0.3887
Determines Types & Extent of Evalua. Srvs. for D.D.	4.15	4.70	3.15	3.81	3.46	3.38	0.0000*

*Significant Difference

59 items slightly higher than did other groups. Generally, center directors and government staff ranked items higher than did graduate school program directors, coordinators state programs, and community developmental disabilities directors.

In order to simplify data presentation, the 59 items were grouped into 10 major management areas and group means were calculated for each along with the rank order by group. These data are shown in Table 7.

The group mean for all groups shown in Table 7 ranged from a low of 2.95 to a high of 4.48 on the Likert Scale. These relatively high scores indicated a rather strong preference for each of the major management subscales. However, the rank order for each major management subscale showed that each group placed emphasis on different managerial functions. This finding was also supported by the chi square procedure and is the foundation for role conflict situations between Administrators and the other groups.

Table 7

Group Means and Rank Order

	Directors		Admin.		Coord. State Prog.		Gov't. Staff		Grad. Prog. Directors		Commun. D. D. Dirs.	
	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank
Principles of Organization and Management	4.08	3	4.39	5	4.34	1	4.45	1	4.43	1	4.41	1
Organizational Development	3.88	7	4.32	7	3.70	6	4.00	4	3.83	5	3.85	6
Personnel Systems	3.91	6	4.35	6	3.39	8	3.74	7	3.21	10	3.59	9
Direction and Communication	3.80	9	4.01	9	3.94	3	3.75	6	3.98	4	4.04	3
Controlling-Operations	3.94	5	4.48	1	3.50	7	3.78	5	3.69	6	3.76	7
Financial Development and Accounting	4.15	1	4.45	2	2.95	10	3.46	10	3.42	8	3.49	10
Economics and Cost Analysis	3.82	8	4.30	8	3.23	9	3.66	9	3.30	9	3.70	8
External Organizational Relationship	3.70	10	4.05	10	3.85	5	3.69	8	3.68	7	3.88	5
Management Information System	4.11	2	4.41	4	3.97	2	4.31	2	4.06	2	4.21	2
Health Care Delivery System	4.00	4	4.44	3	3.93	4	4.02	3	3.99	3	4.03	4

CHAPTER V

SUMMARY AND CONCLUSIONS

Introduction

Scientific study of the role of the administrator in a multidisciplinary national center established for research, training, and service has seldom been undertaken on any large scale. Those related studies that have been done are centered more on industrial research centers or grants management positions within a university setting. Thus, there is a paucity of information on the role demands of the administrator of a multidisciplinary national center.

Historical development of the university system has brought into focus three specific prime functions: research, teaching, and service. The goals, norms, values, and national priorities have exerted influence upon these functions and upon the manner in which universities have carried out these responsibilities. For every system there is a set of role expectations for members of the role-set. Potential conflicts exist whenever the role behavior and conceptions of individual members of the role-set do not fall within the limits of those prescribed by the system.

Summary

The overall purpose of this study was to provide further insight into the perceived functional role of administrators serving in national centers established by the federal government to encourage

and foster research, training, and service. The research was based on the assumption that the quest for functional role identity among administrators in national centers is a meaningful problem to study in pursuit of techniques to improve organizational structures and to establish guidelines for the training of multidisciplinary administrators. Specific purposes were to determine the relationship between the role expectation of the administrator, in 10 major management areas, and: (a) center directors, (b) governmental staff, (c) graduate school program directors, (d) coordinators state programs, and (e) community developmental disabilities directors.

Lonsdale's concept of role and the concept of role expectation by Getzels, Lipham, and Campbell were used as a broad analytical framework for the study. According to these conceptualizations, a role expectation is a set of evaluative standards for another person in a role. These expectations define what the person should or should not do while occupying his role (Lonsdale, 1964, pp. 149-150; Getzels et al., 1968, p. 61). Kahn, Wolfe, Quinn, and Snock (1964, p. 27) pointed out that a detailed investigation into the role expectations of key members of the role set should indicate the potential for conflict in the situation and create a deeper understanding of the role itself. They felt that role conflicts came about as the result of a person's being required to fill two or more roles whose expectations are inconsistent (Lonsdale, 1964, pp. 154-55). Lonsdale stated that a detailed analysis of roles and role expectations within a given social setting could alleviate wasteful and pointless role conflict. Role theory was a way of conceptualizing problems of

individual performance in a way which provided detailed insight and a rational view of organization behavior (Lonsdale, 1964, pp. 154-155).

The definition of a role by an individual grows out of the interaction of the culture, the person, and the situation. Roles are always personally defined, are structured in terms of the percartions and learned behavior of the actor, the demands of the role set, and the prescriptions of the social system. When a group agrees upon modal prescriptions, it is agreeing upon modal behavior. However, there are pluralistic modal prescriptions within any given system from which some deviance is tolerated. There are variant orientations. Some of the variables, and the interaction of variables, which contribute to role conflict will be identified and analyzed within the framework of the study on role theory.

The sample for the study consisted of (a) center directors - 27, (b) center administrators - 30, (c) governmental staff - 16, (d) graduate school program directors - 24, (e) coordinators state programs - 26, and (f) community developmental disabilities directors - 44. Persons occupying these key roles were requested to respond to a questionnaire containing 10 subscales about major management functions for the center administrator. The response, with followup procedures, resulted in an overall 54% return rate.

Responses were punched into cards and analyzed on a PDP 11/40 computer system. Data were analyzed by using the chi square, analysis of variance and the Newman-Keuls programs.

Conclusions

The data support the following relationships between the administrator and the role expectation of the five groups.

1. Directors and administrators have similar role expectations on all 10 subscales and on most of the 59 management items. The most likely role conflict would occur in areas related to organizational control.

2. Governmental staff and administrators have similar role expectations in all areas except organizational development, personnel development, and organizational control.

3. Directors of graduate school programs and administrators have dissimilar role expectations in many of the 10 major management areas. The most likely areas of conflict would occur in personnel management, organizational control, financial management, economics and cost analysis, and management information systems. The role conflict between these two groups is considered to be very serious, since young administrators are currently being trained by these programs.

4. Coordinators of state programs and community developmental disabilities directors have similar role expectations for the administrator, although these role expectations differ greatly from the way the administrator perceives himself. Role conflicts are likely to be present when the administrator and coordinator of state programs and community developmental disabilities directors interact in areas such as organizational development, personnel development, financial development, economics and cost analysis, management

information system and health care delivery systems. Some of these role conflicts might be explained by noting that on some occasions these three groups could be in direct competition for research, training, and service monies.

Recommendations

Multidisciplinary and interdisciplinary administrations are new and growing fields. Federal, state, and local governments are spending millions of dollars each year for health services with little or no way to evaluate the effectiveness of the service nor the effectiveness related to program management. There is a strong need for training programs for health service administrators in an interdisciplinary model to insure effectiveness and system wide efficiency in research, training, and services. Results from this study indicated that the institutions responding to this questionnaire are projecting 386 new administrative positions in the next 3 years: 67 at the doctoral level, 167 at the master's degree level; and 152 at the bachelor degree level.

The review of related literature and the current study suggest three major areas in which further research can aid in the development of a more complete understanding or role theory as it relates to the administration of multidisciplinary and interdisciplinary research training and service. These areas are: (a) the interrelationships of the 38 graduate programs that belong to the Association of University Programs in Health Administration (AUPHA), (b) interrelationships with the AUPHA and center administrators, and

(c) expanded interrelationships with center administrators, coordinators state programs, and community developmental disabilities directors. A thorough understanding of these role relationships and rivalries would contribute to a more complete understanding of the roles which shape the administration process. Through these improved relationships, training programs could be developed to insure more effective and efficient delivery systems for multidisciplinary and interdisciplinary research, training, and service in a university model.

REFERENCES

Baldridge, J. Power and conflict in the university: Research in the sociology of complex organizations. New York: John Wiley & Sons, Inc., 1971.

Baumgartel, H. Leadership styles as a variable in research administration. Administrative Science Quarterly, 1975, 2, 344-360.

Ben-David, J. The professional role of the physician in bureaucratized medicine: A study in role conflict. Human Relations, 1958, 2, 255-257.

Bennis, W. Changing organizations. New York: McGraw-Hill, 1966.

Biddle, B., & Thomas, E. (Eds.). Role theory: Concepts and research. New York: John Wiley & Sons, Inc., 1966.

Blau, P., & Scott, W. Formal organizations: A comparative approach. San Francisco: Chandler, 1962.

Burchard, W. Role conflicts in military chaplains. American Sociological Review, 1954, 19, 528-535.

Cravens, D., Heathington, K., & Mundy, R. Organizing for interdisciplining research in a university setting. Journal of the Society of Research Administrators, 1976, 8, 3-11.

Cyert, R., & MacCrimmon, K. Organizations. In C. Lindzy, & E. Aronson (Eds.), The handbook of social psychology (2nd ed.), Vol. I. Reading, Mass.: Addison-Wesley, 1968.

Delbecq, A., Van de Ven, A., & Gustarson, D. Group techniques in program planning. Glenview, Ill.: Scott, Foresman & Co., 1975.

Getzels, J. Administration as a social process. In A. Halpin, Administrative theory in education. Chicago: Midwest Administration Center, 1958.

Getzels, J. A psycho-sociological framework for the study of educational administration. Harvard Educational Review, 1952, 22, 235-246.

Getzels, J., & Guba, E. Role, role conflicts and effectiveness. American Sociological Review, 1954, 19, 164-175

Getzels, J., Lipham, J., & Campbell, R. Educational administration as a social process. New York: Harper & Row, 1968.

Getzels, J., Lipham, J., & Campbell, R. Educational administration as a social process: Theory, research, practice. New York: Harper & Row, 1968.

Griffith, D. Administrative theory and change in organizations. In M. Miles (Ed.), Innovation in education. New York: Teachers College Press, 1964.

Gross, N., Mason, W., & McEachern, A. Explorations in role analysis: Studies of the school superintendent role. New York: John Wiley & Sons, Inc., 1958.

Guetzkow, H. Differentiation of roles in task-oriented groups. In D. Cartwright & A. Zandu (Eds.), Group dynamics: Research and theory. New York: Harper & Row, 1968.

Gullahorn, J. Measuring role conflict. American Journal of Sociology, 1956, 61, 299-303.

Homans, G. The human group. New York: Harcourt Brace, 1950

Kahn, R., Wolfe, D., Quinn, P., Snock, J., & Rosenthal, R. Organizational stress: Studies in role conflict and ambiguity. New York: John Wiley & Sons, Inc., 1964.

Kaplin, N. The role of the research administrator. Administrative Science Quarterly, 1959, 4, 20-41.

Kirk, R. Experimental design: Procedures for the behavioral sciences. Belmont, Calif.: Brooks/Cole, 1968.

Levinson, D. Role personality, and social structure in the organizational setting. Journal of Abnormal and Social Psychology, 1959, 58, 170-180.

Linton, R. The study of man. New York: Appleton-Century, 1936.

Lonsdale, R. Maintaining the organization in dynamic equilibrium. The Sixty-third Year Book of the National Society for the Study of Education, Part II. Chicago: University of Chicago Press, 1964.

McNemar, O. Physiological statistics. New York: John Wiley & Sons, 1963.

Mead, H. Mind, self, and society. Chicago: University of Chicago Press, 1934.

Merton, R. The role set: Problems in sociological theory. British Journal of Sociology, 1957, 8, 106-120.

Palmer, C., Balderston, J., & Lawrence, S. Administrative functions of the research administrator. Journal of the Society of Research Administrators, 1972, 4, 1-5.

Parsons, T. Societies. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1960.

Parsons, T. Suggestions for a sociological approach to the theory of organizations. Administrative Science Quarterly, 1956, 1, 63-85.

Parsons, T., & Shils, E. (Eds.). Toward a general theory of action. Cambridge: Harvard University Press, 1951.

Pelz, D. Some social factors related to performance in a research organization. Administrative Science Quarterly, 1956, 1, 310-325.

Sarbin, T. Role theory. In G. Lindzey (Ed.), Handbook of social psychology. Cambridge: Addison-Wesley Publishing Co., 1954.

Sargent, S. Concepts of role and ego in contemporary psychology. In J. Rohru & M. Sherif (Eds.), Social psychology at the crossroads. New York: Harper & Brothers, 1951.

Shibutani, T. Reference groups and social control. In A. Rose (Ed.), Human behavior and social processes. Boston: Houghton-Mifflin Co., 1962.

Stouffer, S. An analysis of conflicting social norms. American Sociological Review, 1949, 73, 707-717.

Stouffer, S., Suchman, E., DeVinney, L., Star, S., & Williams. R. The adjustment during army life. Princeton, N. J.: Princeton University Press.

Winer, B. Statistical principles in experimental design. New York: McGraw-Hill, 1962.

APPENDIX A

HEALTH SERVICES ADMINISTRATOR

EDUCATION QUESTIONNAIRE

HEALTH SERVICES ADMINISTRATOR EDUCATION QUESTIONNAIRE

□□□□

I. DEMOGRAPHIC DATA (Please check the following items that best describes your position and organization.)

A. Position (Please check only one.) □

1-Program Director ( )

2-Administrative Director ( )

3-Teaching Faculty ( )

4-Federal Governmental Program Staff ( )

5-State Governmental Program Staff ( )

6-Local Governmental Program Staff ( )

B. Educational Background (Check highest degree.) □

1-BA/BS ( ) 4-LLB/JD ( )

2-MS/MA ( ) 5-PhD ( )

3-EdD ( ) 6-MD ( )

Major Discipline:_____ □□

C. Administrative Background (Check the one area below that best describes your current role.) □

1-Organization Administration ( )

2-Program Administration ( )

3-Supervisor of Administrative Support Services ( )

4-Administrative Assistant ( )

5-Teaching Faculty ( )

6-Other (Please specify)_____ ( )

D. Administrative Experience (Please check only one.) [ ]

1-Less than 1 year ( )

2-1 to 2 years ( )

3-2 to 3 years ( )

4-3 to 4 years ( )

5-4 to 5 years ( )

6-More than 5 years ( )

E. Age (Please indicate your age in years.) [ ][ ]

Age: _____

F. Organizational Base (Please check only one.) [ ]

1-University-Public ( )

2-University-Private ( )

3-Nonprofit Public ( )

4-Nonprofit Private ( )

5-Federal Government ( )

6-State Government ( )

7-Local Government ( )

G. Number of Employees in Your Program (Not applicable for teaching faculty and Federal governmental program staff.)

1-Professional Personnel _____ [ ][ ][ ][ ]

2-Support Personnel _____ [ ][ ][ ][ ]

H. Number of Clients Served by Your Program Annually (Please check only one. Not applicable for teaching faculty and Federal governmental program staff.) [ ][ ]

1-Less than 100 ( )

2-101 to 200 ( )

3-201 to 300 ( )

4-301 to 400 ( )

5-401 to 500 ( )

6-501 to 1000 ( )

7-1001 to 1500 ( )

8-1501 to 2000 ( )

9-2001 to 2500 ( )

10-2501 to 5000 ( )

11-More than 5000 ( )

I. Operating Budget - Current Year (Please check only one. Not applicable for teaching faculty and Federal governmental program staff.) 017

1-Less than $250,000	( )	10-$1,500,001 to 2,000,000	( )
2-251,000 to 300,000	( )	11-2,000,001 to 2,500,000	( )
3-301,000 to 350,000	( )	12-2,500,001 to 3,000,000	( )
4-351,000 to 400,000	( )	13-3,000,001 to 3,500,000	( )
5-401,000 to 450,000	( )	14-3,500,001 to 4,000,000	( )
6-451,000 to 500,000	( )	15-4,000,001 to 4,500,000	( )
7-501,000 to 1,000,000	( )	16-4,500,001 to 5,000,000	( )
8-751,000 to 1,000,000	( )	17-More than 5,000,000	( )
9-1,000,001 to 1,500,000	( )		

II. HEALTH SERVICES ADMINISTRATION MANPOWER AND STATUS NEEDS

A. How many administrative positions do you currently have in your organization that require a doctorate? _____ 00

B. How many administrative positions do you currently have in your organization that require a masters degree? _____ 00

C. How many administrative positions do you currently have in your organization that require a bachelors degree? _____ 00

D. Does your program plan to increase the number of administrative positions in the next 2-5 years? 0

1-Yes ( )

2-No ( )

3-Do not know ( )

E. If yes to the above question:

How many bachelor positions? _____ 00

How many masters positions? _____ 00

How many doctoral positions? _____ 00

III. RESPONSIBILITIES FOR ADMINISTRATORS. In this section of the questionnaire we are trying to determine what role and degree the administrator should play in the major functional areas of management for health services programs. Please circle the number that represents the degree to which you feel an administrator should be involved in the major functional areas of management systems that are listed below.

A. Principles of Organization and Management

1) Organizational Planning

1 Never 2 3 Sometimes 4 5 Always ☐

2) Program Planning

1 Never 2 3 Sometimes 4 5 Always ☐

3) Decision Making

1 Never 2 3 Sometimes 4 5 Always ☐

4) Policy Making

1 Never 2 3 Sometimes 4 5 Always ☐

B. Organizational Development

1) Nature and Purpose of Organization

1 Never 2 3 Sometimes 4 5 Always ☐

2) Scope of Management Authority

1 Never 2 3 Sometimes 4 5 Always ☐

3) Assignment of Activities

1 Never 2 3 Sometimes 4 5 Always ☐

4) Determination of Line-Staff Relationships

1 Never 2 3 Sometimes 4 5 Always ☐

5) Provision of Support Services

1 Never 2 3 Sometimes 4 5 Always ☐

6) Structuring of Committees

1 Never 2 3 Sometimes 4 5 Always ☐

C. Personnel

1) Personnel Administration

1 Never 2 3 Sometimes 4 5 Always ☐

2) Recruitment Procedures

1 Never 2 3 Sometimes 4 5 Always ☐

3) Supervision and Training

1 Never 2 3 Sometimes 4 5 Always ☐

4) Performance Evaluation and Promotions

1 Never 2 3 Sometimes 4 5 Always ☐

5) Employer-Employee Relationship

1 Never 2 3 Sometimes 4 5 Always ☐

D. Direction and Communication

1) Communication of Organizational Goals

1 Never 2 3 Sometimes 4 5 Always ☐

2) Facilitate Communication within the Organization (Formal and Informal)

1 Never 2 3 Sometimes 4 5 Always ☐

3) Communication with the Media

1 Never 2 3 Sometimes 4 5 Always ☐

4) Public Relations Communication

1 Never 2 3 Sometimes 4 5 Always ☐

5) Leadership within the Organization

1 Never 2 3 Sometimes 4 5 Always

6) Leadership Outside the Organization

1 Never 2 3 Sometimes 4 5 Always

E. Controlling

1) Program Operations

1 Never 2 3 Sometimes 4 5 Always

2) Organizational Operations

1 Never 2 3 Sometimes 4 5 Always

3) Policies Development

1 Never 2 3 Sometimes 4 5 Always

4) Support Systems

1 Never 2 3 Sometimes 4 5 Always

5) Personnel System

1 Never 2 3 Sometimes 4 5 Always

6) Financial System

1 Never 2 3 Sometimes 4 5 Always

F. Financial Development and Accounting

1) Basic Organizational Budgeting

1 Never 2 3 Sometimes 4 5 Always

2) Program Budgeting

1 Never 2 3 Sometimes 4 5 Always

3) Basic Organizational Accounting

1 Never 2 3 Sometimes 4 5 Always

4) Individual Program Accounting

1 Never 2 3 Sometimes 4 5 Always

5) Funds Development - Federal Government

1 Never 2 3 Sometimes 4 5 Always

6) Funds Development - State Government

1 Never 2 3 Sometimes 4 5 Always

7) Funds Development - Local Government

1 Never 2 3 Sometimes 4 5 Always

8) Funds Development - Labor and Industry

1 Never 2 3 Sometimes 4 5 Always

9) Third Party Payment

1 Never 2 3 Sometimes 4 5 Always

10) User Fees Development/Collection

1 Never 2 3 Sometimes 4 5 Always

11) Philanthropy

1 Never 2 3 Sometimes 4 5 Always

G. Economics and Cost Analysis

1) Cost Benefit Analysis

1 Never 2 3 Sometimes 4 5 Always

2) Manpower Development

1 2 3 4 5
Never Sometimes Always

3) Impact of Economic Factors on the Supply of Developmental Disabilities Services

1 2 3 4 5
Never Sometimes Always

4) Relationship between Economic Status and Need for Developmental Disabilities Services

1 2 3 4 5
Never Sometimes Always

H. External Organizational Relationships

1) Program Relationships with Federal Government

1 2 3 4 5
Never Sometimes Always

2) Program Relationships with State Government

1 2 3 4 5
Never Sometimes Always

3) Program Relationships with Local Government

1 2 3 4 5
Never Sometimes Always

4) Program Relationships with Other Agencies

1 2 3 4 5
Never Sometimes Always

5) Departmental Relationships within the Parent Organization

1 2 3 4 5
Never Sometimes Always

6) Legal Implications Related to Developmental Disabilities Services

1 2 3 4 5
Never Sometimes Always

7) Political Matters Related to Developmental Disabilities Services

1 2 3 4 5
Never Sometimes Always

I. Management Information System

1) Development of Record Systems

1 Never 2 3 Sometimes 4 5 Always ☐

2) Development of Policy on the Use and Abuse of Confidential Information

1 Never 2 3 Sometimes 4 5 Always ☐

3) Computer and Technology of Information

1 Never 2 3 Sometimes 4 5 Always ☐

4) Operational Responsibility of Data Processing Systems

1 Never 2 3 Sometimes 4 5 Always ☐

J. Health Care Delivery Systems

1) Integration of Developmental Disabilities Program with Community

1 Never 2 3 Sometimes 4 5 Always ☐

2) Liaison Relationship with Community Health Agencies

1 Never 2 3 Sometimes 4 5 Always ☐

3) Represents the Organization or Program to the Community

1 Never 2 3 Sometimes 4 5 Always ☐

4) Determines and Identifies Community Needs

1 Never 2 3 Sometimes 4 5 Always ☐

5) Determines Community Resources for Developmental Disabilities Services

1 Never 2 3 Sometimes 4 5 Always ☐

6) Determines Types and Extent of Evaluation Services for Developmental Disabilities

1 Never 2 3 Sometimes 4 5 Always ☐

Please add additional topic areas that you think an administrator should play and indicate the degree on a scale of 1 - 5.

Area: _____

1 Never 2 3 Sometimes 4 5 Always

Area: _____

1 Never 2 3 Sometimes 4 5 Always

Area: _____

1 Never 2 3 Sometimes 4 5 Always

Your assistance in completing this questionnaire is greatly appreciated and will be very helpful in determining the basis for a curriculum program in multidiscipline health services administration.

APPENDIX B

QUESTIONNAIRE REVIEW BOARD

Walter M. Burnett, PhD, Director
Graduate Program in Health Service
and Hospital Administration
Tulane University Medical Center
1430 Tulane Avenue
New Orleans, Louisiana 70112

Patricia A. Cahill, Director
Office of Long-Term Care
Association of University Programs
in Health Administration
One Dupont Circle
Washington, D. C. 20036

John E. Kralewski, PhD, Director
Program in Health Administration
Department of Preventive Medicine
and Comprehensive Health Care
School of Medicine
University of Colorado Medical
Center
4200 East Ninth Avenue
Denver, Colorado 80220

John R. Malban, Project Director
Mental Health Administration
Training Program in Hospital and
Health Care Administration
School of Public Health
University of Minnesota
195 Frontier Hall
Minneapolis, Minnesota 55455

Charles V. Keeran, Jr.
Associate Director, Administration
UCLA
TheNeuropsychiatric Institute
Mental Retardation Program
760 Westwood Plaza
Los Angeles, California

Adrian E. Williamson, Administrator
University of Colorado Medical Center
John F. Kennedy Child Development
Center
4200 E. 9th Avenue
Denver, Colorado 80220

J. Robert Gray, Administrator
University of North Carolina
Division for Disorders of Develop-
ment and Learning
Box 523
North Carolina Memorial Hospital
Chapel Hill, North Carolina 27514

Jerry O. Elder, Assistant Director
University of Oregon Medical School
Crippled Children's Division
P. O. Box 574
Portland, Oregon 97201

Melvin D. Peters
University of Tennessee
Child Development Center
711 Jefferson Avenue
Memphis, Tennessee 38105

APPENDIX C

QUESTIONNAIRE TEST SITES

UCLA
The Neuropsychiatric Institute
Mental Retardation Program
760 Westwood Plaza
Los Angeles, California

University of Colorado Medical Center
John F. Kennedy Child Development Center
4200 E. 9th Avenue
Denver, Colorado 80220

University of North Carolina
Division for Disorders of Development and Learning
Box 523
North Carolina Memorial Hospital
Chapel Hill, North Carolina 27514

University of Oregon Medical School
Crippled Children's Division
P. O. Box 574
Portland, Oregon 97201

University of Tennessee
Child Development Center
711 Jefferson Avenue
Memphis, Tennessee 38105

The John F. Kennedy Center for Research on Education and Human Development
Box 75
George Peabody College for Teachers
Nashville, Tennessee 37203